

13. (Amended) The assay of claim 37 wherein the pantothenate kinase is a CoaX protein and wherein step (b) comprises determining the ability of the test compound to bind to the CoaX protein.

A2 14. (Amended) The assay of claim 13 further comprising determining the ability of the test compound to inhibit the activity of the CoaX protein; wherein the compound is identified as a potential antibiotic based on the ability of the compound to bind to and inhibit the activity of the CoaX protein.

15. (Amended) The assay of claim 37 wherein the pantothenate kinase is CoaX protein, wherein the assay composition further comprises pantothenate or a pantothenate analog and wherein step (b) comprises determining the ability of the test compound to modulate binding of the pantothenate or pantothenate analog to the CoaX protein.

A3 17. (Amended) The assay of claim 37 wherein the assay composition comprises a recombinant cell expressing a single pantothenate kinase encoded by a *coaX* gene.

18. (Amended) The assay of claim 37 wherein the assay composition comprises a recombinant cell expressing a first and second pantothenate kinase, wherein the first or second pantothenate kinase has reduced activity.

Please add new claim 37, as follows:

- A4 37. (New) An assay for the identification of an antibiotic, comprising;
- (a) contacting an assay composition comprising a pantothenate kinase with a test compound; and
 - (b) determining the ability of the test compound to bind to or modulate the activity of the pantothenate kinase;

wherein the test compound is identified as an antibiotic based on the ability of the compound to bind to or modulate the activity of the pantothenate kinase.